

lowered bill, some by no head action. Then it turned away from the bird it had been pursuing, for 3 minutes more walked about widely in the horizontal posture, then took wing and both of the others followed suit and all disappeared.

The resemblance of this behavior to "proposing" by a female Herring Gull suggests that it too was courtship. No literature available to me touches on the subject, but William E. Southern, who is studying the Ring-bill on Lake Michigan, states (pers. comm.) that the courtship behavior of the two species is indeed similar. Ring-billed Gulls were present at Woodlawn into early April, but on no other occasion did I see any indication of courtship or of paired status.—HERVEY BRACKBILL, 2620 Poplar Drive, Baltimore, Maryland 21207. Accepted 1 Sep. 70.

**Molting Greater Shearwaters (*Puffinus gravis*) off Tierra Del Fuego.**—In January 1966, J. P. Angle and I photographed Greater Shearwaters, *Puffinus gravis*, at the Atlantic entrance to the Straits of Magellan and observed them in and just south of the Lemaire Strait between Tierra del Fuego and Staten Island. We recorded the species on three out of four passages throughout the area 1, 2, 13, 14, and 18 January, but not 23–24 February. The most birds seen together was 100; other flocks of 10 to 25 were seen, but they were not generally numerous. Likewise, Peter C. Harper (pers. comm.) saw several Greater Shearwaters, 20 January to 15 March 1966, in the Lemaire and near South Georgia and South Sandwich Islands, while Bourne (1963) and Bourne and Radford (1961), quote sightings as far south as 54° 08' S, 43° 45' W (east of South Georgia) in early April 1961 and at 52° 30' S, 53° W (east of the Falklands) in late December 1959. There is also a specimen from "Tierra del Fuego" (possibly taken at sea off the east coast or near Bahia Orange)

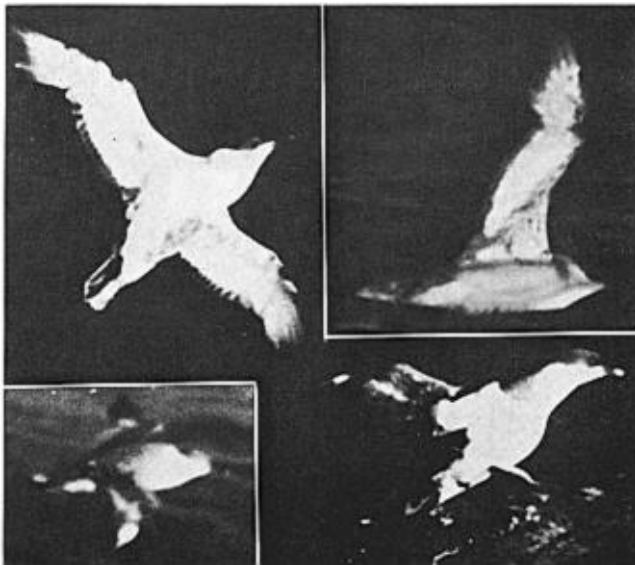


Figure 1. Greater Shearwaters at Atlantic entrance to the Straits of Magellan, January 1966. Innermost primaries and primary coverts are in molt showing irregular margin and white bases of underlying feathers.

in the Smithsonian Institution (USNM 15531), collected during the U. S. Exploring Expedition between mid-February and late April 1839. These are the southernmost records of the species, and the only well documented ones for the Fuegian region (Humphrey et al., 1970).

The Greater Shearwater is known to breed during the austral summer on Nightingale, Inaccessible, and Gough Islands in the Tristan da Cunha Group and on Kidney Island in the Falklands, where so far only one nest has been found (Wood, 1970). Eggs are laid in November and young fledge in April and May. Most of the population then migrates north, passing rapidly through the tropics, to spend the boreal summer in the northern North Atlantic Ocean (Voous and Wattel, 1963), where the adults undergo a complete annual molt. A few birds overwinter off South Africa and in the extreme southwestern Indian Ocean, but observations in the Pacific Ocean near the Kermadecs and northern New Zealand (Jenkins, 1968) are suspect and may be misidentified *Pterodroma externa cervicalis* (but see Jenkins, 1970).

After considerable enlargement, four of the 1966 photographs show molt of the innermost primaries already underway in January (Figure 1). Primaries on the Exploring Expedition specimen are fresh and fully grown. Published accounts of molt in the Greater Shearwater state that replacement of wing and tail feathers takes place June to November exclusively on the northern hemisphere contranuptial grounds (Mayaud, 1950). One molting bird was also seen off West Africa in December (Bourne, 1963). There is evidence, in addition to these photographs, that some Greater Shearwaters may begin molting in the southern hemisphere before migration. Very few specimens of shearwaters have been taken during migration, but an unexplained mortality along the beaches of the central Atlantic states in June 1969 (Bridge et al., 1969; Watson, 1970) resulted in a number of specimens being examined during the last leg of migration. The majority, as expected at the late date, were newly fledged birds in fresh juvenal plumage, but three obviously older birds were completing molt of the outermost primaries and tail.

In many Procellariiformes, especially temperate zone species that migrate long distances, molting is inhibited by breeding and generally takes place after migration. This leads me to conclude that the Greater Shearwaters found off Tierra del Fuego in January (and probably those off South Africa at the same season), when the adults in the Tristan Group and the Falkland populations are feeding small chicks, are pre-breeding birds feeding well away from the breeding grounds. It is possible, however, that they are individuals from an as yet undiscovered population breeding on Staten Island, the birds of which are very poorly known. Presumably Beck and Reynolds (summarized in Murphy, 1936) investigated the Wollaston and Cape Horn Island groups well enough during the breeding season to have observed Greater Shearwaters had they been breeding there. Not only should further observations of Greater Shearwaters be made along the east coast of Tierra del Fuego, but also specimens should be collected to ascertain the reproductive state of their gonads and progress of molt.

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GEORGE E. WATSON, *National Museum of Natural History, Smithsonian Institution, Washington, D. C. 20560*. Accepted 1 Sep. 70.

(Further information on Greater Shearwater distribution and molt came in after this note was in press. R. G. B. Brown, F. Cooke, and E. L. Mills (pers. comm.) saw them off eastern South America in late January and February 1970. It was the commonest seabird species they saw on a run between Rio de la Plata and the Strait of Magellan 23-26 January, and they met single birds at 51° 00' S, 66° 50' W and 52° 25' S, 67° 15' W. On 21 February they saw over 115 of them during one half hour off the east coast of Tierra del Fuego at 53° 10' S, 67° 50' W. The Stresemanns (J. Ornithol., 111: 378-393, 1970) review molt and migration in the species. They found that breeding adults molt rapidly in the Northern Hemisphere, but present only circumstantial evidence from birds taken off Newfoundland in late June that molt in year-old Greater Shearwaters begins in March or April in the Southern Hemisphere. Older nonbreeding birds, they conclude, begin molting the primaries in the north in June. Thus by the Stresemann's theory, the molting birds we photographed were year-old birds.—G. E. WATSON.)

**Vestigial erectile crest in *Picathartes*.**—I have been able to watch many captive Guinea Bare-headed Rock Fowl (*Picathartes gymnocephalus*) at close hand. This species is quite tame and allows close approach. I have noted one aspect of their anatomy that seems to have been overlooked. On the crown of the bare-skinned head along the midline and between the eyes are a few (3-5) white filoplumes 3-6 mm in length; they are arranged in two groups and extend along the midline for approximately 6 mm. This almost invisible crest is elevated and lowered at will. Melvin A. Traylor informs me (pers. comm.) that similar feathers in *P. oreas* are black.—G. MICHAEL FLIEG, *Chicago Zoological Park, Brookfield, Illinois 60513*. Accepted 21 Dec. 70.